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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,479	04/13/2004	Gary Turner	60680-760	4950

26127 7590 11/30/2005

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SUITE 300  
BLOOMFIELD HILLS, MI 48304-5086

EXAMINER

PANG, ROGER L

ART UNIT	PAPER NUMBER
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3681

DATE MAILED: 11/30/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/823,479

Applicant(s)

TURNER ET AL.

Examiner

Roger L. Pang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4 and 6-8 is/are rejected.
- 7) ☒ Claim(s) 3 and 5 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                | Paper No(s)/Mail Date. ____   |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4-13-05</u> .   | 6) <input type="checkbox"/> Other: ____                                     |

### DETAILED ACTION

The following action is in response to application 10/823,479 filed on April 13, 2005.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2, and 6-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ries.

With regard to claim 1, Ries teaches a differential for a vehicle, comprising a differential housing 30 defining a first opening; a pinion shaft 35 disposed within said first opening and configured for rotation about an axis extending through said first opening; a pinion gear 36 mounted on said pinion shaft; an input yoke 49 disposed about a portion of said pinion shaft; a first bearing set disposed about and engaging said input yoke (Fig. 5); and, a second bearing set 39 axially spaced from said first bearing set having a bearing cone in engagement with said pinion shaft (Fig. 5). Ries lacks the specific teaching of the first bearing set comprising of a conical bearing set. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ries to employ a conical bearing set as said first bearing set, since Ries teaches of conical bearings, and in order to provide a more efficient load-bearing bearing. With regard to claim 2, Ries teaches the differential, further comprising a spacer disposed between said input yoke and said bearing cone of said second bearing set (Fig. 5). With regard to claim 6, Ries teaches the differential, wherein said input yoke includes a plurality of splines configured for engagement with a corresponding plurality of splines on said pinion shaft (Col. 2, lines 59-62), and said

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plurality of splines on said input yoke disposed radially inwardly of said first bearing set (Fig. 5).

With regard to claim 7, Ries teaches the differential, further comprising a carrier 118 disposed within said opening, radially outwardly of said input yoke. With regard to claim 8, Ries teaches the differential wherein said first bearing set is disposed between said carrier and said input yoke (Fig. 5).

Claims 1-2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Love in view of Ries. With regard to claim 1, Love teaches a differential for a vehicle, comprising a differential housing defining a first opening (Fig. 2); a pinion shaft 26 disposed within said first opening and configured for rotation about an axis extending through said first opening; a pinion gear 52 mounted on said pinion shaft; an input yoke 56 disposed about a portion of said pinion shaft; a first bearing set disposed about and engaging said input yoke (Fig. 2); and, a second bearing set axially spaced from said first bearing set and in engagement with said pinion shaft (Fig. 2). Love lacks the specific teaching of the first and second bearing sets comprising of conical bearing sets. Ries teaches of a differential comprising of conical bearing sets 38/39. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Love to employ conical bearing sets in view of Ries in order to provide a more efficient load-bearing bearing. With regard to claim 2, Love teaches the differential, further comprising a spacer disposed between said input yoke and said bearing cone of said second bearing set (Fig. 2). With regard to claim 4, Love and Ries teach the differential wherein said bearing cone of said second bearing set is retained between said spaced and said pinion gear (Fig. 2).

*Allowable Subject Matter*

Claims 3 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

*Conclusion*

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Riblet, Vanderberg, Gulick and Buckendale have been cited to show similar differentials.

**FACSIMILE TRANSMISSION**

Submission of your response by facsimile transmission is encouraged. The central facsimile number is (571) 273-8300. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mail room processing and delivery time. For a complete list of correspondence not permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check should not be submitting by facsimile transmission separately from the check.

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Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to the Patent and Trademark Office (Fax No. (571) 273-8300) on \_\_\_\_\_ (Date)

Typed or printed name of person signing this certificate:

\_\_\_\_\_  
\_\_\_\_\_

(Signature)


If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roger L. Pang whose telephone number is 571-272-7096. The examiner can normally be reached on 5:30am to 4:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Marmor can be reached on 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Roger L. Pang  
Primary Examiner  
Art Unit 3681

November 21, 2005